

**REMARKS**

This is a full and timely response to the non-final Office Action mailed February 8, 2006. Upon entry of the foregoing amendments, claims 4, 6, 10, 13-15 and 17 are pending in the application. Claims 4, 6 and 13-15 have been amended. Claims 1-3, 5, 7-9, 11, 12 and 16 have been canceled. The subject matter of amended claims 4, 6 and 13-15 can be found in the originally filed specification in at least FIGs. 1 and 3 and the related detailed description. Consequently, no new matter is added to the present application. In light of the foregoing amendments and following remarks, Applicants request reconsideration of the application and pending claims.

**I. Claim Rejections Under 35 USC § 112 – Claims 10 and 11****A. Statement of the Rejection**

Claims 10 and 11 stand rejected under 35 USC § 112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the rejection addresses “comparing the sawtooth wave to the voltage without inverting the voltage representing the select range of wavelengths of visible light to produce a digital pulse width modulated output, wherein the steps of converting the current, generating and comparing are accomplished in a single integrated circuit,” alleging that the quoted subject matter was not described in the original disclosure in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.

**B. Discussion of the Rejection**

Applicants respectfully traverse the rejection of claims 10 and 11 under 35 USC § 112, first paragraph.

In accordance with the Manual of Patent Examining Procedure, Section 2163 Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, para. 1, “Written Description” Requirement [R-2], “It is now well accepted that a satisfactory description may be in the claims or any other portion of the originally filed specification.” The guidelines clearly state, “[a]n applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas

that fully set forth the claimed invention.” *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997).

Applicants’ originally submitted FIG. 1 illustrates a circuit schematic including at least a sawtooth wave generator 120 coupled via output 125 to comparator 130 as well as a photodiode 100 directly coupled to a transimpedance amplifier 110 (i.e., without inverting the voltage between the photodiode and the transimpedance amplifier), the output of which is coupled via output 115 to comparator 130 to generate a digital pulse-width modulated output 140. Page 4 of Applicants’ originally submitted specification discloses that it is desirable to shape the spectral output of the photodiode by placing optical filtering material in the optical path. Select filtering material enables incident light of a range of select wavelengths to pass through the material as described in the detailed description related to FIG. 3. It follows that the placement of a select material in the optical path between a light source and a photo-sensitive diode in the circuit of FIG. 1 will result in the comparison of the voltage representing a select range of wavelengths of visible light with the sawtooth wave to produce a digital pulse-width modulated (PWM) output. The paragraph that bridges pages 3 and 4 of Applicants’ specification discloses that the circuit of FIG. 1 is integrated in a single three or four pin module. Thus, Applicants have demonstrated possession of the claimed invention by describing the claimed invention with all of its limitations using at least words and figures. Accordingly, the rejection of claims 10 and 11 under 35 U.S.C. § 112, first paragraph, should be withdrawn.

## II. Claim Rejections Under 35 USC § 103 – Claims 4-6, 10, 11 and 13-17

### A. Statement of the Rejections

Claims 4-6, 10 and 11 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 6,664,556 to Doberenz, hereafter *Doberenz*, in view of U.S. Patent No. 5,016,046 to Nishiyama, hereafter *Nishiyama*.

Claims 13-17 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over *Doberenz* in view of *Nishiyama* and further in view of U.S. Patent No. 6,894,266 to Richard *et al.*, hereafter *Richard*.

**B. Discussion of the Rejections**

Applicants' claims 5, 11 and 16 have been canceled. Accordingly, the rejection of claims 5, 11 and 16 is rendered moot.

A *prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants' independent claims 4 and 13, as amended, and claim 10, as previously presented, comprise respective features that are not disclosed, taught, or suggested by the prior art.

Applicants' independent claim 4, as amended, is directed to a module for converting an optical signal to a digital signal that comprises "an optical filter passing a filtered signal comprising a select range of frequencies present in an optical signal."

In contrast with Applicants' claimed module, the proposed combination of *Doberenz* in view of *Nishiyama* does not disclose, teach or suggest a module for converting an optical signal that comprises an optical filter for passing a filtered signal. Both *Doberenz* and *Nishiyama* are entirely silent regarding an optical filter passing a filtered signal comprising a select range of frequencies. Accordingly, the proposed combination fails to establish a *prima facie* case of obviousness as to Applicants' amended independent claim 4 and the rejection of claim 4 under 35 U.S.C. § 103(a) should be withdrawn.

For at least the reason that claim 6 depends directly from claim 4 and includes all the features of independent claim 4, the rejection of claim 6 under 35 U.S.C. §

103(a) should also be withdrawn. *In re Fine*, 837 F.2d 1071, 5 USPQ 2d 1596, 1598 (Fed. Cir. 1998).

Applicants' independent claim 10 is directed to a method that comprises at least the step of "filtering incident light from the optical source such that wavelengths of visible light impinge a sensor sensitive to a select range of wavelengths, wherein the select range of wavelengths is associated with one of red, green and blue light."

In contrast with Applicants' claimed method, the proposed combination of *Doberenz* in view of *Nishiyama* does not disclose, teach or suggest the step of filtering incident light from the optical source such that wavelengths of visible light impinge a sensor sensitive to a select range of wavelengths. Both *Doberenz* and *Nishiyama* are entirely silent regarding an optical filter passing a filtered signal comprising a select range of frequencies. Accordingly, the proposed combination fails to establish a *prima facie* case of obviousness as to Applicants' independent claim 10 and the rejection of claim 10 under 35 U.S.C. § 103(a) should be withdrawn.

Applicants' independent claim 13, as amended, is directed to an apparatus that comprises at least "an optical filter passing a filtered signal comprising a select range of frequencies associated with one of red, green and blue light present in an optical signal."

In contrast with Applicants' claimed apparatus, the proposed combination of *Doberenz* in view of *Nishiyama* and *Richard* does not disclose, teach or suggest an optical filter. As described above, *Doberenz* and *Nishiyama* are entirely silent regarding an optical filter passing a filtered signal comprising a select range of frequencies. *Richard* discloses a compact solution for integrating an avalanche photodiode with bias, and temperature compensation functions. *Richard*, like *Doberenz* and *Nishiyama* is entirely silent regarding an optical filter passing a filtered signal comprising a select range of frequencies. Accordingly, the proposed combination fails to establish a *prima facie* case of obviousness as to Applicants' amended independent claim 13 and the rejection of claim 13 under 35 U.S.C. § 103(a) should be withdrawn.

For at least the reason that claims 14, 15 and 17 depend directly or indirectly from claim 13 and include all the features of independent claim 13, the rejection of

APPLICATION NO. 10/799,126  
ATTORNEY DOCKET NO. 70040126-1  
Page 9 of 9

claims 14, 15 and 17 under 35 U.S.C. § 103(a) should also be withdrawn. *In re Fine, supra.*


**CONCLUSION**

For at least the reasons set forth above, Applicants respectfully submit that pending claims 4, 6, 10, 13-15 and 17 are allowable over the cited art of record and the present application is in condition for allowance. Accordingly, a Notice of Allowance is respectfully solicited. Should the Examiner have any comments regarding the Applicants' response, Applicants request that the Examiner telephone Applicants' undersigned attorney.

Respectfully submitted,

SMITH FROHWEIN TEMPEL  
GREENLEE BLAHA LLC

By:

  
Robert A. Blaha  
Registration No. 43,502  
(770) 709-0069